

DESCRIPTIONS OF TWENTY-FIVE NEW SPECIES OF NORTH AMERICAN HYMENOPTERA.

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The following pages contain the descriptions of 25 new species of Hymenoptera which have been submitted for identification. The types of all the species are in the United States National Museum.

Superfamily MEGALODONTOIDEA.

Family MEGALODONTIDAE.

ITYCORSIA ZAPPEI, new species.

Of the North American species, this new species is probably most closely allied to *maculiventris* (Norton), but the male differs in a number of ways from the description given for that species, and the description of the female given by MacGillivray does not agree in all details with the female of the species described here. In MacGillivray's key to the species of *Itycorsia* of Connecticut (Bull. 22, Conn. Geol. and Nat. Hist. Survey, p. 33) this species runs to couplet 6, but differs from both *luteomaculata* (Cresson) and *albomaculata* (Cresson) in the black clypeus and other minor characters. Of the European species it seems to be more closely allied to *stellata*, but differs from the descriptions of that species in the color of both adult and larva.

Female.—Length 13 mm. Anterior margin of the clypeus truncate; medianly the clypeus is strongly raised by the extension of the antennal carina; its surface is shining, impunctate; median fovea deep, elongate; area above the frontal crest with rather close, small punctures; median ocellus in a diamond-shaped depression; posterior ocellus bordered laterad and caudad by a deep furrow; posterior orbits and vertex shining, with large widely separated punctures, frontal crest obsolete; antennae 31-jointed, the third joint slightly longer than the fourth and fifth combined; prescutum shining, practically impunctate; scutum shining, with a median area of close, large punctures; scutellum shining, practically impunctate; mesepisternum subopaque, with sparse, rather large, setigerous punctures. Black;

spot on the mandibles at base, spot on the superior orbits, two spots on the vortex, spot on the occiput behind the eye, and with a line-like projection toward the supraorbital spot, the posterior margin of the pronotum, tegulae, two spots near the posterior margin of the prescutum, two spots along the notauli on the scutum, two large spots on the scutum posteriorly, a small spot on the lower posterior orbits, an elongate spot on the mesepisternum dorsally, circular spot on the sides of the pronotum, most of the metepisternum, dorsal and ventral margins of tergites, the apical margin of the sternites 3, 4, 5, and 6, *yellowish-white*; legs black; the tibiae and basal joints of the anterior tarsi rufous; wings hyaline basally, fuliginous beyond the basal margin of the stigma; venation dark brown.

Paratype females show that this species may vary as follows: the spot on the metepisternum may be greatly reduced; the line projecting toward the supraorbital spot may be complete or entirely absent; the yellow spot on the lower margin of the posterior orbits is usually wanting.

Male.—Length 8.5 mm. In puncturation and characters of the head, the male agrees with the above description of the female, except the declivous face is a little more sharply defined on the frontal crest, however the frontal crest is rounded and not margined; antennae 31-jointed; the third joint slightly longer than the fourth and fifth; hypopygidium broadly rounded apically. Black and yellow; antennae yellowish-ferruginous, apical half brownish; scape above black; head black; mandibles except apices, clypeus except two points medianly, lateral supraclypeal area, area between the antennae and extending caudad in two lines to the level of the anterior ocellus, the lateral orbits near the top of the eye where they narrow and extend almost to the middle of the occiput, supraorbital spot, connected with the line extending posteriorly to meet the line of the occiput, two spots on the vertex, *yellow*; thorax black, the posterior dorsal margins of the pronotum, tegulae, most of the prescutum, two spots on the scutum anteriorly, spots on the scutum posteriorly, the scutellum, most of the metepisternum, sternum, metepimeron, and episternum, *yellow*; sternites, and tergites ventrally, and the lateral margin of the tergites dorsally yellow; the rest of the tergites black; legs yellow with the base of the coxae posteriorly, line of the femora and trochanters posteriorly black; wings hyaline; venation dark brown; costa and also margin of the stigma yellowish.

Type locality.—New Haven, Connecticut. Described from eight females and two males collected by M. P. Zappe for whom the species is named. The type female was collected as a larva August 2, 1916, on Austrian pine and emerged June 7, 1917. It is recorded under No. 670 Connecticut Agricultural Experiment Station. The type male and the paratype male were collected as larvae on August 2, 1916, on

White pine, and emerged June 26, 1917, and are recorded under No. 669 Connecticut Agricultural Experiment Station. The other females were collected in June and July, 1915.

Type, Allotype, and four female Paratypes.—Cat. No. 21605, U.S.N.M.

Three female paratypes and the male paratype returned to the Connecticut Agricultural Experiment Station.

Superfamily TENTHREDINOIDEA.

Family ARGIDAE.

ARGE MOCSARYI, new name.

Arge apicalis MOCSARY, Anal. Mus. Nat. Hung., vol. 7, 1909, p. 6; not (*Hylotoma*) *Arge apicalis* Kirby, 1894.

Family TENTHREDINIDAE.

PERICLISTA PLESIA, new species.

This species is very close to *carycola* (Dyar), but the sheath is obliquely truncate and then broadly rounded to the base; the clypeus has a broad subangulate emargination and the fourth antennal joint is subequal in length to the fifth.

Female.—Length 5.5 mm. Clypeus broadly subangulately emarginate, the lobes broad and rounded on the lateral margins; supraclypeal area gently convex, shining; middle fovea circular in outline, deep with sloping walls; frontal foveae small, elongate; ocellar basin reduced to a triangular depression around the anterior ocellus from which it projects posteriorly to the postocellar furrow; antennal furrows obsolete between the frontal foveae and the postocellar furrow; postocellar furrow well defined; postocellar area convex, faintly impressed medianly, well defined laterally; third antennal joint a little shorter than the fourth and fifth joints; the fourth and fifth joints subequal; vertex and mesepisternum shining; stigma three times as long as its greatest width, obliquely truncate apically; petiole of the anellan cell rather long; sheath straight above, pointed at the tip, obliquely truncate and then rounded to the base. Black; clypeus, labrum, margin of the pronotum, and tegulae, yellowish-white; margin of the prescutum, posterior margin of the scutum, scutellum, anterior part of the pronotum, upper half of the mesepisternum, all of the legs except the extreme bases of the coxae, sternites except the middle of the five basal (narrow on the first to broader on the fifth) rufo-ferruginous; wings hyaline, venation brown, costa and stigma whitish.

Type locality.—Portland, Connecticut. Described from the female collected on white pine on May 15, 1914, by B. H. Walden.

Type.—Cat. No. 21697, U.S.N.M.

PERICLISTA PECANIVORA, new species.

Allied to *Periclista hicoriae* Rohwer but may easily be distinguished by the polished practically impunctate scutum and scutellum (in *hicoriae* with uniform, separated punctures), and by the ventral tooth of the mandibles being long and acute (in *hicoriae* scarcely exceeding upper, blunt and rounded).

Female.—Length 5.5 mm. Mandibles with the lower tooth long and pointed, much exceeding the upper; clypeus with large punctures basally, apically depressed, the apical margin with a shallow acute median emargination, lobes broad, rounded apically; supraclypeal area not strongly convex, triangular in outline; median fovea oval, deep, with a shallow furrow extending dorsally; antennal furrows shallow, broad; depression around anterior ocellus sharply defined above, open below, triangular in outline; postocellar furrow straight, sharply defined; vertical furrows sharply defined anteriorly, obsolete posteriorly; postocellar area convex; postocellar line somewhat longer than ocellular line; fourth and fifth antennal joints subequal; front with medium size, rather close, setigous punctures; vertex and temples polished but with a few rather small punctures; entire mesonotum polished, with only a few punctures along the margins of sclerites; mesepisternum polished with only small setigous punctures; stigma nearly four times as long as greatest width; gradually tapering from base to interradius then sharply oblique; the apical lower abscissa nearly half as long as interradius; interradius very slightly before middle of third cubital; anellan cell sessile; sheath straight above but with apical angle curved upward so there is a narrow projection, from projection gradually rounding to base. Black; apical part of clypeus, labrum, palpi, spot on mandibles basally, angles of pronotum and tegulae whitish; upper half of mesepisternum, margins of prescutum, posterior margin of scutum, a spot on scutellum ferruginous; abdomen except first tergite (margins of tergites slightly infuscated), and legs except posterior coxae, yellowish ferruginous; wings hyaline; venation dark brown, costa and stigma yellowish.

Type locality.—San Saba, Texas. Described from two females received from Bureau of Entomology under Quaintance number 16703 and bearing host label "Pecan". Collected April 20, 1918, by A. I. Fabis.

Type.—Cat. No. 22203 U.S.N.M.

PTERONIDEA MELANOSTOMA, new species.

This species runs in Marlatt's key to *pacificus* (Marlatt), but that species has, according to the description, a deep, oval middle fovea and has the characters of the head and the color of the femora different. Although the shape of the sheath suggests species of *Pontania*

the habitus, characters of the head, and antennae are typical of the genus *Pteronidea*.

Female.—Length 5 mm. Robust; shining. Clypeus gently convex, the anterior margin shallowly, arcuately emarginate, the lobes broad and rounded apically; supraclypeal foveae deep, punctiform, not connected with the antennal foveae; supraclypeal area uniform, convex, not sharply defined dorsally but tapeziodal in outline; median fovea shallow, circular in outline; frontal crest broken by an elongate shallow depression which appears as an interrupted extension of the middle fovea; ocellar basin short, sharply defined, shining, trapezoidal in outline; antennal furrows well defined dorsally; postocellar line subequal with the ocellular line; postocellar area sharply defined anteriorly by the distinct angulate postocellar furrow; a distinct furrow from the anterior ocellus to the postocellar furrow, posterior orbits full, straight; antennae rather short, distinctly tapering, the third joint a trifle shorter than the fourth; inner tooth of the claw shorter than the outer; stigma long, narrow, sharply tapering, fully four times as long as its greatest width; recurrentella distinctly post-furcal; sheath broad, straight above, truncate apically, the truncation slightly emarginate, oblique to a broad base. Black; sides of the nates ferruginous; legs black; trochanters, apices of the femora, all of the tibiae and tarsi, yellowish-ferruginous; wings hyaline, venation dark brown, costa and stigma yellow; head and thorax with short white hair.

Type locality.—St. George Island, Bering Sea. Described from one female collected by G. De Has Hanna, June 14, 1914, and recorded under his lot No. 12.

Type.—Cat. No. 21644, U.S.N.M.

PTERONIDEA ALNIVORA, new species.

This species is closely allied to *Pteronidea corylus* (Cresson) but the scape and the supraclypeal area are black, the middle fovea is broader and more rounded, the lower margins of the lancets have small sharp teeth.

Female.—Length 6 mm.; length of the antennae 4.5 mm. Anterior margin of the clypeus deeply arcuately emarginate, the lobes obtusely rounded, distinctly narrower than the emargination; supraclypeal area uniformly convex, triangular in outline; supraclypeal foveae deep, elongate, confluent with the antennal foveae; middle foveae broad, U-shaped in outline, walls sloping; frontal crest very prominent, broken; ocellar basin hexagonal in outline, open above with the lateral and lower walls high but sloping; postocellar area convex, parted, well defined laterally but only incompletely defined anteriorly; antennae distinctly tapering, the third joint a trifle longer than the fourth; head and thorax shining; stigma short, rounded

below, broadest at about the middle, its length about two and one-sixth times as great as greatest width; third cubital one-fifth wider apically; the second recurrent received one-half the length of the second intercubitus from the apex of the cell; sheath straight above, rounded apically, tapering to a broader base. Black; labrum, angles of the pronotum, tegulae, whitish; abdomen beyond the basal plates rufous; sheath black; legs rufo-ferruginous; the bases of all the tibiae, and the four anterior basitarsis whitish; apices, hind femora, apical two-thirds of hind tibiae, and all of the hind tarsi black; wings hyaline, iridescent, venation brown.

Male.—Length 5 mm. The structural characters of the head agree very well with those of the female; third antennal joint is distinctly shorter than the fourth; stigma as in the female; third cubital cell but little longer than its apical width; hypopygidium subtruncate apically, the sides oblique; procutia projecting by nearly its apical width, truncate. Black; labrum, angles of the pronotum, and tegulae whitish; legs rufo-ferruginous; apices of all the tibiae whitish; the extreme apex of the posterior femora, apical two-thirds of the posterior tibiae, and all of the posterior tarsi, blackish; wings hyaline, venation brown.

Type locality.—Webb Pond, Maine. Described from eleven females (one, type) and two males (one, allotype) reared from larvae collected September 5, 1894, feeding on Alder. Material collected and reared by H. G. Dyar and recorded under his No. 4Q.

Type.—Cat. No. 21794, U.S.N.M.

PTERONIDEA MENDICANA, new species.

This species is closely allied to *mendicus*, but is readily separated by the large size and the different conformation of the head.

Female.—Length 6 mm.; length of the antennae 4.5 mm.; robust. Clypeus deeply, subsquarely emarginate, the width of the emargination much less than the lobes; lobes broadly rounded; supra-clypeal foveae punctiform, not confluent with the antennal foveae; supra-clypeal area convex, broadly triangular in outline; middle foveae elongate, deeper below, and giving the appearance of being circular; frontal crest indistinctly broken; ocellar basin poorly defined, pentagonal in outline; postocellar area not arched, sharply defined on all sides, straight anteriorly; postocellar line subequal with the ocellular line; antennae slender, tapering, the third and fourth joints subequal; head and thorax shining; stigma broader at base, sharply tapering to the apex, the greatest width two and one-third times the length; third cubital distinctly longer than its apical width; second recurrent one-half the length of the second intercubitus from the end of the cell; sheath straight above, broad, obliquely truncate apically, gradually tapering below. Yellowish-ferruginous;

antennae, spot inclosing the ocelli, one on the postocellar area, spots on the prescutum, scutum, apex of the scutellum, posterior margin of the scutum, metathorax medianly, all of the tergites medianly, black; legs yellowish; hind tarsi dusky; hind tibiae ferruginous; the color on the ventral part of the body is distinctly paler than on the dorsal part; wings hyaline; costa and stigma pale brown, remaining venation dark brown.

Type locality.—Harrisburg, Pennsylvania. Described from four females (one type) reared from larvae collected on *Salix* and recorded under Bureau of Entomology No. Hopk. U.S. 11398r. Material collected by A. B. Champlain and reared by William Middleton.

Type.—Cat. No. 21795, U.S.N.M.

PTERONIDEA AMELANCHIERIDIS, new species.

This species belongs in with *militaris* (Cresson) and *thoracica* (Harrington) but is readily separated from both of these by the black venter. Marlatt confused more than one species both under the name of *militaris* and *thoracica*. The species from *Amelanchier* determined as *thoracica*, however, seems to be correct.

Female.—Length 5 mm.; length of antennae 4.5 mm. Robust. Anterior margin of the clypeus deeply, arcuately emarginate, the lobes narrow and sharply triangular; supraclypeal foveae deep, connected with the antennal foveae; supraclypeal area strongly convex; middle fovea elongate, breaking through the crest; ocellar basin pentagonal, walls rounded; a distinct longitudinal groove extending below the anterior ocellus; postocellar area flat, sharply defined on all sides; postocellar furrow angulate anteriorly; postocellar line a trifle longer than the ocellular line; head shining; third antennal joint slightly shorter than the fourth; antennae only gently tapering; thorax shining; stigma rounded below, about four times as long as the greatest width; third cubital rectangular in outline, about one half times as long as broad; second recurrent the length of the second intercubitus before the end of the cell; sheath straight above, acute at the apex, sharply oblique to the broad base. Black; angles of the pronotum, mesepisternum, sternum, metasternum, spots on the side of the scutum, and legs to the apices of the femora, rufous; the four anterior tibiae and tarsi, the basal half of the posterior tibiae, white; apical half of the posterior tibiae and all of the hind tarsi, black; wings hyaline, venation dark brown.

Paratypes indicate that the rufous marks on the scutum may be entirely wanting, and the apical joints of the anterior tarsi may be black.

Type locality.—East River, Connecticut. Described from three females (one, type) reared from larvae collected by Charles R. Ely, feeding on *Amelanchier canadensis*, and recorded under Bureau of

Entomology, No. Hopk. U. S. 13649 e². Material reared by William Middleton.

Type.—Cat. No. 3485, U.S.N.M.

PTERONIDEA PLESIA, new species.

This species is closely allied to *Pteronidea salicis-odorata* (Dyar), but the stigma is shorter and distinctly angulate near the base and the emargination of the clypeus is U-shaped and not V-shaped.

Female.—Length 6 mm.; length of the antennae 4.5 mm. Robust. Anterior margin of the clypeus deeply emarginate, the emargination U-shaped, the lobes broad, rounded apically; supraclypeal area triangular in outline, gently convex; supraclypeal foveae punctiform, confluent with the antennal foveae; middle fovea elongate and breaking through the crest by a short narrow channel; frontal crest faintly broken; ocellar basin pentagonal, closed above, the walls well defined; postocellar furrow nearly obsolete; postocellar area broad; postocellar line subequal with the ocellular line; head, seen from the side, with the anterior margin arched, not angular, antennae distinctly tapering, the third joint a trifle shorter than the fourth; head and thorax shining; stigma distinctly angulate a little before the middle, two and one-third times as long as its greatest width; third cubital cell slightly wider apically and one-fifth longer than the third intercubitus; second recurrent fully one-third the length of the second intercubitus from the apex of the cell; sheath straight above, rounded at the apex and sharply oblique. Yellowish-ferruginous; antennae, head above the frontal crest and between the antennal furrows, scutum, prescutum, scutellum, metathorax medianly, tergites medianly, apex of the sheath, black; legs the color of the body except the apical joints of the four anterior tarsi and apical half of the posterior tibiae and all of the posterior tarsi are black; wings hyaline, iridescent; venation, including the stigma, dark brown.

Type locality.—Westbury, Long Island, New York. Described from three females reared from larvae collected from *Populus tremuloides* and recorded under Bureau of Entomology No. Hopk. U. S. No. 136560. Material collected by A. B. Champlain, and reared by William Middleton.

Type.—Cat. No. 21796, U.S.N.M.

AMAURONEMATUS WHITNEYI, new species.

In Marlatt's key to the species, runs to *orbitalis* Marlatt but it is larger and has quite different characters in the head. It bears a superficial resemblance to *similis* Marlatt, but may be easily distinguished from that species by the pale upper part of the mesepisternum.

Female.—Length 8.25 mm. Robust. Clypeus gently convex, the apical margin with a deep V-shaped emargination, the lobes broad,

triangular in outline; supraclypeal foveae deep, oval, not connected with the antennal foveae; supraclypeal area flat, opaque, trapezoidal in outline; middle fovea large, shallow dorsally, deeper ventrally, the outer margin triangular in outline; ocellar basin poorly defined, the lower and dorsal walls obsolete, the lateral walls reduced to narrow line-like ridges, probably pentagonal in outline; postocellar line distinctly longer than the ocellocular line; postocellar area strongly convex, sharply defined laterally by elongate foveae, and anteriorly by the well defined, curved postocellar furrow; antennae short, not extending beyond the apex of the scutellum, the third joint a trifle shorter than the fourth, strongly curved beneath; stigma long and narrow, broader at base where it is slightly angulate; third cubital cell twice as wide apically as basally, on the radius one-fourth shorter than the second; recurrentella jointing the cubitellian cell the length of the intercubitella basad of the intercubitella; claws deeply cleft, inner tooth slightly shorter than outer; sheath broad, straight above, rounded at the apex, sharply oblique and then gently oblique to the base. Black; clypeus, labrum, mandibles, palpi, supraclypeal area, entire orbits, posterior ones broadly, most of the postocellar area, most of the pronotum, tegulae, posterior margin of the prescutum, anterior half of the scutellum, posterior margin of the scutum, upper half of mesepisternum, *yellowish*; legs black; coxae except basally trochanters, anterior and intermediate tibiae and tarsi, apex of the posterior femora beneath, posterior tibiae, base of the posterior tarsi, yellowish-white; last two tergites and the margins of the four apical sternites yellowish-white; wings subhyaline, venation dark brown, costa and stigma yellowish.

Type locality. St. Paul Island, Bering Sea. Described from one female collected April 15, 1914, by A. G. Whitney, and bears his lot No. 122. Named for A. G. Whitney.

Type.—Cat. No. 21642, U.S.N.M.

PACHYNEMATUS GOTARUS Kincaid.

Females from St. George Island, Bering Sea, collected in June, 1914, by G. Da Has Hanna, at the same time that males of this species were taken seem to be without any doubt the females of this species. In Marlatt's revision they run to *pubescens* Marlatt, but differ from that species in the emargination of the clypeus and other head characters.

Female.—Length 6.5 mm. Robust. Clypeus gently convex, the anterior margin broadly, shallowly, arcuately emarginate; supraclypeal foveae deep, elongate, confluent with the antennal foveae; supraclypeal area opaque, rather strongly convex, triangular in outline; middle fovea deep, punctiform; frontal crest not broken; ocellar basin well defined, triangular in outline, with the lower wall broad;

postocellar line very little shorter than the ocellocular line; postocellar area strongly convex, well defined laterally, almost completely parted by a medium furrow; postocellar furrow nearly wanting; antennae rather short, the third joint a trifle shorter than the fourth; head and thorax shining, covered with long gray hair; posterior orbits straight; second recurrent interstitial or slightly beyond the second intercubitus; third cubital cell short, its length subequal with the apical width; stigma rounded below; recurrentella interstitial with the intercubitella; sheath broad, straight above, pointed apically, then obliquely truncate. Black; clypeus, supraclypeal area, posterior orbits obscurely, mesothorax almost entirely, venter, two apical tergites and legs except infuscate bases of the coxae and femora, rufopiceous; wings subhyaline, venation pale brown, costa and stigma yellowish.

PACHYNEMATUS BOULDERENSIS, new species.

This new species belongs to group III of Marlatt and runs in his key to *pallidiventris* (Cresson) but is to be distinguished from that species by the smaller middle fovea and subequal third and fourth antennal joints. In general appearance it is much like *robustiformis* Rohwer which belongs to group II.

Female.—Length, 6 mm.; length of anterior wing, 6 mm. Anterior margin of the clypeus broadly arcuately emarginate, the lobes triangular and pointed apically; supraclypeal foveac, large, deep, obliquely placed and oval in outline, connected with antennal foveae; supraclypeal area broad, convex; middle fovea small well defined, oval in outline; frontal crest fairly prominent and only slightly broken; ocellar basin pentagonal in outline incompletely defined below; antennal furrows complete, broad, shallow; postocellar line slightly shorter than the ocellocular line; postocellar furrow feeble; postocellar area narrow, with a median impression; temples receding; antennae but little shorter than body, slightly tapering, the third and fourth joints subequal; head with scattered setigulous punctures; thorax shining, practically impunctate; scutellar appendage irregularly aciculate; second recurrent antefurcal by nearly the length of second intercubitus; stigma large, rounded below, two and one-half times as long as broad; sheath straight above, narrowly rounded apically and tapering to a broad base; cerci long slender. Black, narrow apical margin of labrum, palpi, narrow posterior, lateral margin of pronotum, tegulae and ventral aspect of abdomen yellowish; legs black, four anterior coxae beneath, trochanters, apical part (broader dorsally) of anterior femora, dorsal line on four posterior femora, four anterior tibiae and tarsi, basal three-fourths of hind tibiae and base of hind basitarsis yellowish; wings hyaline, iridescent; venation and stigma dark brown, costa yellowish.

Type locality.—Boulder, Colorado. Described from one female collected May 9, 1919, by K. Fitzgerald.

Type.—Cat. No. 22356, U.S.N.M.

PRISTIPHORA BETULAVORA, new species.

This species is closely allied to *murtfeldtiae* Marlatt but may be distinguished from that species by the smooth, polished scutellar appendage and the depressed area latrad of ocelli.

Female.—Length, 5.5 mm. Supraclypeal area prominent, triangular in outline; middle fovea shallow, oval in outline; antennal furrows indicated only by broad shallow depressions which cause the central area to appear somewhat raised; postocellar line distinctly longer than the ocellocular line; postocellar furrow straight; front punctured, the punctures smaller and more widely separated laterally; vertex and temples polished; antennae tapering, the third joint not much longer than the fourth, the fourth and fifth subequal; scutum with only a few widely scattered punctures; scutellum and appendages smooth, shining; stigma rounded below; first intercubitus wanting; second recurrent about length of second intercubitus from apex of cell; third cubital slightly longer than apical width. Black; palpi in part, narrow apical margin of labrum, tegulae, trochanters, apices of anterior femora, four anterior tibiae and tarsi, basal two-thirds of hind tibiae white; wings hyaline, venation including costa and stigma dark brown.

Male.—Length, 4 mm. Agrees in structure and color with the female; flagellum reddish-yellow beneath.

Type locality.—East River, Connecticut. Described from three (one type) females and one male. Material collected by Chas. R. Ely as larvae feeding on white birch (*Betula alba*) and reared at East Falls Church, Virginia, under Bureau of Entomology numbers Hopk. U. S. 10757*d* (type, allotype and paratype) and Hopk. U. S. 10745*m*.

Type.—Cat. No 22323 U.S.N.M.

Superfamily CYNIPOIDEA.

HEXAPLASTA LUCIDA, new species.

Of the described North American species this new species is more like *H. websteri* Crawford, but may easily be distinguished from it by the different sculpture of the scutellum and longer pedicellum.

Female.—Length 2 mm. Head without sculpture; postocellar line subequal with ocellocular line; pedicellum subequal in length with the fourth joint and only a little shorter than the third joint; general outline of antennae about as in *websteri* but the apical joint is about one-fourth longer than the preceding; apex of elevation of scutellum with a large fovea; basally there are also two large fovea;

scutellum latrad and apicad of elevation closely irregularly punctured; propodeum with short white hair and a low median ridge; hair band on first tergite dense, tawny; first abscissa of radius distinctly shorter than the second. Black; mandibles, joints of legs basally, apices of femora, all tibiae and tarsi rufo-piceous; wings hyaline; venation brown.

Male.—Length 2 mm. Except for usual sexual characters agrees with the description of female; antennae 15-jointed, pedicellum about one-third length of third joint, flagellar joints nearly of uniform thickness and length.

Type locality.—Syracuse, New York. Described from two females and one male reared by M. W. Blackman and H. H. Stage from *Hicoria glabra* and recorded under their numbers H-1820 (type), H-1898 (paratype) and H-1956 (allotype).

Type.—Cat. No. 22028 U.S.N.M.

Superfamily ICHNEUMONOIDEA.

Family ICHNEUMONIDAE.

Genus LISSONOTA Gravenhorst.

The species here described are believed to be congeneric with *Lissonota sulphurifera* Gravenhorst, the genotype of the genus *Lissonota*.¹

LISSONOTA EVETRIAE, new species.

This species is closely allied to *pleuralis* (Cresson) but may be distinguished by the longer and more finely sculptured tergites and from the typical form by the rufous scutum.

Female.—Length, 6.5 mm. Clypeus shining, the anterior margin broadly rounded; face with distinct separate punctures; vertex, front and scutum similarly but more sparsely punctured; propodeum with punctures similar to those on the face, the apical carina well defined but not specially prominent; tergites long and narrow, the second but little shorter than the first, the third slightly shorter than the second, the first finely obliquely aciculate laterally and in addition to the aciculations with small scattered punctures, without a transverse sculptured depression apically; second tergite with small scattered punctures except just before the apical lateral margins where the punctures are almost confluent; third tergite uniformly, sparsely punctured; areolet sessile; nervulus postfurcal at three fourths its length; nervellus angulately broken below the middle; ovipositor slightly longer than the insect. Black; clypeus, mandibles except apices, spot on inner orbits opposite the ocelli, antennae, spot on the inner superior orbits, the usual spot on the

¹ See Viereck, Bull. 83, U. S. Nat. Mus., 1914, p. 86.

scutum, tegulae, a spot beneath, spot on the sides of the pronotum, anterior coxae and trochanters *white*; mesoscutum spot on the scutellum, mesepisternum beneath, legs except dusky apices of the posterior tibiae and the posterior tarsi rufo-ferruginous; wings hyaline, iridescent, venation dark brown.

Male.—Length, 5 mm. The puncturation of the male is sparser than in the female; otherwise the structural characters of the above apply well to this sex. Black; clypeus, mandibles, face, lower posterior orbits, inner superior orbits, the usual spots on mesepisternum extending back beyond the middle a spot on the sides of the pronotum, oblique line on the mesepisternum, four anterior coxae and trochanters white; legs ferruginous except the dusky spot and the posterior trochanters above, the apices of the hind tibiae and the posterior tarsi which are dusky; wings hyaline, iridescent, venation pale brown. In the male the coloration of the hind coxae varies from the usual ferruginous color through a piceous spot to an entirely piceous coxae.

Type locality.—Cheyenne, Mountains, Colorado. Described from four females (one, type) and five males (one, allotype) recorded under Bureau of Entomology, Hopk. U. S. Nos. 13283*b* (type) and 13295*b*, material collected by J. H. Pollock and reared at the field station at Ashland, Oregon where it was determined that this species is a parasite in the cocoons of *Evetria taxifoliella* Busck.

Type.—Cat. No. 20782, U.S.N.M.

LISSONOTA DIORYCTRIAE, new species.

The sculpture of this species is very similar to that of *pleuralis* (Cresson) but the marking of the abdomen is quite different. All the specimens of the species have the areolet incomplete, that is, the second intercubitus obliterated.

Female.—Length, 5 mm. Clypeus convex, shining the anterior margin narrowly truncate; face and front coriaceous; mesoscutum with close distinct punctures; propodeum with distinct separate punctures, the apical carina well defined and prominent; dorsal aspect of the propodeum with a faint median, longitudinal impression which is not however bounded by a carina; nervulus postfurcal at half its length; nervellus broken below the middle; tergites rather short and coarsely sculptured, the first one-third longer than the second, punctured basally, the apical margin irregularly rufous; second subequal in length to the third, with coarse, close punctures which apically become confluent; the third has punctures uniform but a little more separated than in the second; ovipositor almost as long as body. Black; clypeus, labrum, inner orbits, face except the median line obscurely, the usual spots on the mesoscutum, the four anterior coxae and trochanters white; mesoscutum, mesepisternum, meta-

pleura, scutellum, apical margin of all the tergites and legs, except where mentioned, rufo-ferruginous.

Type locality.—Patrick's Creek, California. Described from two females recorded under Bureau of Entomology Nos. Hopk. U. S. 14265*l* (type) and 14265*f*, material collected by J. M. Miller and J. E. Patterson and reared at the station at Ashland, Oregon, where it was determined as a parasite of *Diorycytria xanthaenobares*.

Type.—Cat. No. 20783, U.S.N.M.

LISSONOTA CONOCOLA, new species.

The species comes close to *incita* (Cresson) and *angusta* (Davis) but may be separated from both these by the different orbital marking and by having the venter mostly black.

Female.—Length, 7 mm. Clypeus very slightly convex, the anterior margins truncate; surface with setigerous punctures; face opaque with a few small poorly defined punctures; front, mesoscutum with well defined separated small punctures; mesepisternum more sparsely punctured; propodeum punctured similarly to the mesoscutum, the apical carina very prominent; nervulus postfural at one-fourth its length; nerveillus angulately broken below the middle; tergites rather short, the first slightly longer than the second with close small punctures, basally just before the apical margin it becomes rather coarsely striato-punctate; second tergite opaque with small poorly defined punctures, before the apical lateral margins striato-punctate; the third and fourth tergites uniformly rather coarsely sculptured; ovipositor as long as insect. Black; apical part of clypeus, mandibles except apices, small spot on the mesoscutum and tegulae white; legs rufo-ferruginous, the posterior tibiae and tarsi dusky; wings hyaline, venation dark brown.

Male.—Length 6.5 mm. Puncturation not as coarse as in the female and the dorsal aspect of the propodeum has an indistinct longitudinal median depression. Black; clypeus mandibles except apices, face except three projections above, spot on the superior orbits, anterior lateral margins of the scutum, tegulae, an irregular line on the mesepisternum, four anterior coxae and trochanters white; the rest of the legs except dusky posterior tibiae and tarsi rufo-ferruginous.

Type locality.—Mineral King, California. Described from two females and two males recorded under Bureau of Entomology No. Hopk. U. S. 13296*e* which refers to a note stating that these are parasitic on some insect living in the cones of *Abies shastensis*, material collected by F. P. Keen.

Type.—Cat. No. 20784, U.S.N.M.

EXOCHUS (TRICLISTUS) EVETRIAE, new species.

Structurally this species is very close to *annulicrus* Walsh but is readily separated from that species by the black coxae. In Davis' review of the Tryphoninae this species goes to *congener* Holmgren but is very easily distinguished from that species by the emarginate occiput.

Female.—Length, 6 mm. Face shining with distinct, large, separated punctures; front and vertex of orbits impunctate; inner margins of eyes nearly parallel; first joint of the flagellum a little shorter than the two following in length; occiput emarginate; mesoscutum and scutellum shining, with sparse setigerous punctures; propodeum shining, with a few setigerous punctures; costulae wanting; the paired longitudinal carinae diverging at the basal third indicating an areola; areolet wanting; nervulus postfurcal by a little more than half its length; abdomen shining, with distinct widely separated punctures which are closer to the middle. Black; tegulae brownish; legs below the trochanters, except the dusky posterior tibiae apically and their tarsi, rufo-ferruginous; wings hyaline, venation pale brown, stigma dark brown.

Type locality.—Butte Falls, Oregon. *Paratype locality*.—Grant Pass, Oregon. Described from two females recorded under Bureau of Entomology Nos. Hopk. U. S. 12530*d* (type) and 12556*ca*, material collected by J. M. Miller and P. D. Sargent, and reared as a parasite of the pupae of *Evetria taxifoliella* (paratype) and *Evetria siskiyouana* (type) at the laboratory at Ashland, Oregon.

Type.—Cat. No. 20785, U.S.N.M.

MESOLEIUS ARTICULARIS Davis.

The following notes made from the type by R. A. Cushman may be useful in assisting in the identification of this species:

Length, 6 mm. Posterior orbits straight; malar space subequal with the width of the mandible at the base; eyes much shorter than the width of the face and with their inner margins parallel; only the clypeus and mandibles yellow; first tergite two thirds as wide as long; all of the coxae nearly entirely black; hind tibiae yellow, reddish at apex; hind tarsi reddish.

MESOLEIUS GYMNONYCHI, new species.

This species according to Davis' classification is more closely allied to *articularis* Davis than to any other species, but the type of the new species has been compared with the type of Davis' species by Mr. Cushman and the following essential differences are noted: Smaller; posterior orbits rounded; malar space one-half the width of the mandible; length of the eyes equal to the width of the face, their inner

margins converging below; face in the middle yellow; first tergite one-half as wide as long; color of legs different.

Female.—Length, 4 mm. Head opaque, finely granular; postocellar line slightly shorter than the ocellocular line; inner margins of the eyes distinctly converging below; length of the eyes subequal with the width of the face below the antennae; apical margin of the clypeus rounded, very slightly depressed; thorax shining, practically impunctate; propodeum shining, with irregular puncturation along the dorsal carinae; tergites shining. Black; mandibles except apices, clypeus, a large spot in the middle of the face, apex of the scape beneath, tegulae, a spot before, the narrow apical margins of tergites 2 and 3, *yellow*; posterior coxae the apices of the first trochanter, apical third of the posterior tibiae, posterior tarsi except a narrow ring at the base, black; wings hyaline, iridescent, venation pale brown; costa and stigma slightly darker.

Type locality.—Wenatchee, Washington. Described from one female reared April 24, 1915, as a parasite of *Gymnonychia californicus* Marlatt by E. J. Newcomer, and reported under Bureau of Entomology No. Quaintance 11416.

Type.—Cat. No. 21641, U.S.N.M.

Genus *EXENTERUS* Hartig.

An examination of the species placed by Davis¹ in the genus *Picroscopus* and a comparison of them with the genotype of *Exenterus* shows that they more properly belong to *Exenterus*. The writer is of the opinion that, if the characters offered in the tables to separate *Picroscopus* from *Exenterus* are the only differences, the genus *Picroscopus* should be suppressed and considered as a synonym of *Exenterus* Hartig.

The American representatives of the genus *Exenterus* make two well defined groups. The first group is represented by a single species, *lophyri* Viereck; the second contains the rest of the American species all of which are closely allied. *Exenterus hullensis* Provancher is not represented in the United States National Museum collection and is not included in the following table. When examining the type of this species I stated that the claws were not at all pectinate and that it would run to the genus *Anecphysis* in both Ashmead's and Davis' tables. An examination of the genotype of *Anecphysis* shows that *hullensis* does not belong there, and since all other characters agree very closely with *Exenterus* it is believed that the observation on the claws may be an error and that there are a few short teeth at the base. according to the notes and the original description of *hullensis* it may be separated from the other American species by the oblique depressions on the second tergite.

¹Trans. Amer. Ent. Soc., vol. 24, 1917, p. 229.

TABLE TO THE SPECIES.

1. Propodeum uniformly sculptured; first and second tergites sculptured like the following..... *lophyri* Viereck.
 Propodeum more coarsely sculptured medianly; first and second tergites more coarsely sculptured than the following..... 2.
2. Third antennal-joint distinctly shorter than the fourth and fifth; carinae of the first tergite short, extending but a short distance beyond the middle; shining gastroceli of the second tergite indistinct; four anterior femora partly black..... 3.
 Third antennal joint subequal with the fourth and fifth; the carinae of the first tergite extending much beyond the middle; shining gastroceli of the second tergite distinct..... 4.
3. Vertex and scutum closely punctured; face mostly yellow; sculpture on the first two tergites very coarse; stigma more than three times as long as broad.
canadensis Provancher.
 Vertex and scutum with distinct well separated punctures; face mostly black-sculpture of the first two tergites not nearly as coarse; stigma a little more than twice as long as broad..... *nigrifrons* Rohwer.
4. Four anterior femora pale; second tergite with very coarse punctures which are mostly confluent..... *diprioni* Rohwer.
 Four anterior femora mostly black; second tergite not as coarsely sculptured and more of the punctures distinct..... *affinis* Rohwer.

EXENTERUS LOPHYRI Viereck.

In describing this species Viereck gave as host *Lophyrus townsendi* but it should be corrected to *Neodiprion (Zadiprion) grandis* (Rohwer).

EXENTERUS CANADENSIS Provancher.

Allotype female in the second Provancher collection, public museum, Quebec, bearing a yellow label with No. 953; in good condition.

Type.—Male is not in the public museum, Quebec, and has not been examined.

EXENTERUS AFFINIS, new species.

Female.—Length, 8 mm. This species is very like *diprioni* and except for the characters mentioned in the foregoing table the description of *diprioni* applies equally well to this species.

Type locality.—Maine. Described from a single female recorded under Bureau of Entomology No. Hopk. U.S. 12070f, and reared from a cocoon of a species of *Neodiprion* sent in by a correspondent as feeding on *Pinus resinosa*. The specimen issued May 18, 1915.

Type.—Cat. No. 21060 U.S.N.M.

EXENTERUS NIGRIFRONS, new species.

This species is closely allied to *canadensis* but the characters given in the foregoing table show the differences between the two species.

Female.—Length, 8.5 mm. Face with close confluent punctures; frons shining with distinct well defined punctures; strong semicircular depressions around the ocelli; area between the ocelli and the

eyes impunctate; postocellar line subequal with ocellocipital line and ocellocular line; pronotum impunctate dorsally, sparsely punctured laterally; mesonotum shining with distinct well defined punctures which are separated by the width of a puncture; propodeum coarsely sculptured in the middle, sides with the punctures distinct, close but not confluent; petiolar area well defined; first tergite one and one-fifth times as long as apical width, parallel sided, the carinae terminating approximately at the middle, coarsely confluent punctured; second tergite with coarse confluent punctures; the third and following tergites shining with the punctures separated by about one-half their width. Black; spot on the mandibles, most of the clypeus, two spots in the middle of the face, scape beneath, inner orbits narrowly, posterior orbits on the lower half, spot on the side of the pronotum, part of the tegulae, spot beneath, the usual spot on the scutum, most of the scutellum, the metanotum, two small spots on the propodeum, apical margin of the first, second, third, fourth, fifth, and sixth tergites (from the second to sixth the band is present only medianly) *yellow*; legs black; trochanters, four anterior femora beneath, four anterior tibiae and tarsi, basal two-thirds of the hind tibiae and most of the hind tarsi yellow; wings dusky hyaline, venation brown.

Type locality.—Washington, District of Columbia. Described from a single female collected May 28.

Type.—Cat. No. 21061, U.S.N.M.

EXENTERUS HULLENSIS Provancher.

Type.—In Harrington collection bearing label P. 581.

Paratypes of this species are in the second Provancher collection public museum, Quebec, bearing blue lable 468 and yellow lable 1238.

FAMILY BRACONIDAE.

CARDOCHILES THERBERIAE, new species.

Apparently allied to *C. thoracica* (Cresson) but the head is darker, the legs and thorax differently marked.

Male.—Length, 5 mm. Head smooth and shining; inner orbits slightly converging below; ocelli in an equilateral triangle; eyes hairy; flagellum distinctly tapering apically, the first joint about one-fifth longer than the fourth; thorax smooth, polished; notauli feebly foveolate; propodeum roughened, the median area well defined, diamond-shaped; abdomen smooth, polished; first abscissa of radius half as long as second and slightly shorter than third which is subequal in length with the second intercubitus. Black; thorax and propodeum ferruginous; clypeus, inner orbits narrowly, elongate spot on posterior orbits dorsally, anterior legs below middle of femora, apices of intermediate femora, basal two-thirds of their tibiae, all of

their tarsi and middle of first tergite yellowish-ferruginous; wings uniformly dark brown, venation, including stigma, black.

The paratype has the head almost entirely black.

Type locality.—Sabino Basin, Santa Catalina Mountains, Arizona. Described from two males collected August 28, 1918, on foliage of *Therberia* by C. H. T. Townsend.

Type.—Cat. No. 22033 U.S.N.M.

MICROTYPUS DIORYCTRIAE, new species.

This species agrees very well with the generic description given by Ratzeburg and his figures of the wing venation. It is the first American species to be described in this genus.

Female.—Length, 5.5 mm. Head shining; the face with a few scattered punctures; supraclypeal foveae deep, punctiform, anterior margin of the clypeus rounded; the posterior orbits much narrower than the diameter of the eye; third and fourth antennal joints subequal; ocelli prominent; postocellar line subequal with the ocellular line; mesoscutum polished; notauli well defined, finely foveolate; depression in front of the scutellum with one prominent median carina and a number of short rugae; lateral areas of the propodeum shining, impunctate; apical dorsal middle and the posterior face reticulate, the sides polished, impunctate with a distinct median carina which becomes weaker posteriorly and divides; mesepisternum polished; legs long, slender; stigma large, triangular, the radius leaving it beyond the middle; the first abscissa of the radius not quite half as long as the second; nervulus postfurcal about half its length; abdomen as long as the head and thorax together; the first segment longitudinal, aciculate; the base of the second tergite with a few aciculations; the third and remaining segments polished, impunctate; lateral margins of the second and base of the third depressed; ovipositor as long as the body. Ferruginous; the sides of the scutellum, metanotum, propodeum, most of the mesepisternum, the first, apical margin, the third, most of the fourth and all of the following tergites black; antennae and flagellum black; wings hyaline, iridescent, venation dark brown, stigma slightly paler at base.

Male.—Length 4.5 mm. The structure of the male agrees with the female except the lateral areas of the propodeum have a few punctures. Black; head except the interocellar area, scape, pronotum, legs except the dusky posterior tarsi and bases of the hind tibiae, the second and third abdominal segments rufo-ferruginous; wings hyaline, iridescent, venation dark brown. The extent of the black on the mesepisternum and abdomen varies considerably and it may be expected that specimens with more black than the description calls for will be found.

Type locality.—Patricks Creek, California. Described from four females and two males recorded under Bureau of Entomology No. Hopk. U. S. 14265*f*, material collected by J. M. Miller and J. E. Patterson and reared at the station at Ashland, Oregon, where it was determined to be a parasite of *Dioryctria xanthaenobares*.

Type.—Cat. No. 20794, U.S.N.M.

Superfamily MUTILLOIDEA.

ELIS EPHIPIUM (Fabricius).

Tiphia ephippium FABRICIUS, Syst. Ent., p. 775, p. 353.

Plesia ephippium JURINE, Nouv. Meth., 1807, p. 152.

Elis ephippium TURNER, Proc. Zool. Soc., 1912, p. 724.

Elis xanthonotus ROHWER, Proc. U. S. Nat. Mus., vol. 49, 1915, p. 234.

I am much indebted to Mr. Rowland E. Turner for pointing out this synonymy. The only excuse for it is the erroneous treatment of *Tiphia ephippium* Fabricius given in Dalla Torre's catalogue.

PEDINASPIS (PSORTHASPIS) PORTIAE, new species.

Allied to *contiguus* (Cresson) but readily distinguished by the dense red hair on the thorax.

Female.—Length, 18 mm. Anterior margin of the clypeus gently rounded; no impressed line below anterior ocellus; ocelli in a low triangle, the posterior ones well below the supraorbital line, postocellar line more than twice as long and the intraocellar line but about one-fourth shorter than the ocellocular line; third antennal joint only slightly longer than the fourth; posterior margin of the pronotum gently arcuately emarginate; posterior face of the propodeum with strong transverse wrinkles; first two abscissae of radius of subequal length and distinctly shorter than the third which is somewhat shorter than the fourth; nervulus postfurcal, curved. Black with bright reddish appressed hair on head, pronotum, mesonotum, tegulae, base of scutellum and abdomen beyond basal third of second segment; basal abdominal segments with a faint purplish tinge; wings uniformly blackish; venation black; legs, antennae and mandibles black.

Type locality.—Sabino Basin, Santa Catalina Mountains, Arizona. Described from one female collected September 17, 1918, on *Therberia* by C. H. T. Townsend.

Type.—Cat. No. 22032 U.S.N.M.

Superfamily SPHECOIDEA.

DIODONTUS CORUSANIGRENS, new species.

In Fox's key¹ to the North American species of *Psen* this species runs in with *cylindricus* and *mixtus* but the smooth scutum, carinae on the face and venation will readily distinguish it from both of these.

¹ Trans. Amer. Ent. Soc., vol. 25, 1898, p. 3.

Male.—Length 6 mm. Clypeus gently convex, the anterior margin with two distinct teeth medianly which are separated by an arcuate emargination; base of the clypeus and the face below the carina finely aciculate over a finely granular surface; face strongly elevated below the antennae, the vertical margin of the elevation bounded by a sharp transverse carina which is notched dorsally at the middle and does not reach the inner eye margin; seen from in front this elevation has two strong median carinae which converge and unite a short distance before the transverse carina which they join at the median notch; these carinae also converge and unite a short distance above the antennae and extend dorsally as a strong carina to the anterior ocellus; front, vertex and posterior orbits shining with widely separated small punctures; ocelli in a low triangle, the postocellar line subequal with the ocellular line; antennae short, stout, slightly thickening apically, third joint slightly longer than fourth and twice as long as pedicellum; pronotum with a sharp transverse carina anteriorly but not dentate laterally; scutum and scutellum shining, with a few widely separated small punctures; suture between scutum and scutellum strongly foveolate; metanotum punctured like the scutellum; propodeum with the basal inclosure with strong rugae which become transverse posteriorly; dorsally the rest of the propodeum is polished, impunctate; posterior aspect of the propodeum finely transversely rugulose on a granular surface on each side of the deep median channel; meso and metapleurae polished practically without sculpture; the oblique suture on mesepisternum foveolate; sides of propodeum sculptured like the posterior aspect; legs rather short; longer calcaria of hind tibiae curved and subequal in length with the hind basitarsis; petiole trisulcate dorsally, subequal in length with the rest of the first tergite, shorter than the hind femora; abdomen shining, impunctate; first and third abscissae of radius subequal fully three times as long as the second abscissa; first recurrent closer to the base of the second cubital than the second recurrent is to the base of the third cubital; hind wings normal. Black; rather sparsely clothed with silvery hair; wings hyaline, iridescent; venation very dark brown.

Type locality.—St. Louis, Missouri. Described from one male collected July 6, 1918, by Phil Rau and forwarded under his number 3584.

Type.—Cat. No. 21990 U.S.N.M.

TRYPOXYLON PLESIUM, new species.

This species belongs to the group of *frigidum* and is closely related to *frigidum* Smith, but may be separated from that species by having the propodeum reticulate dorsally instead of with uniform oblique striae.

Female.—Length, 8 mm. Anterior margin of the clypeus with a narrow median projection which is very feebly emarginate; a distinct

prominent carina between the bases of the antennae; frontal impressed line incomplete; ocellocular line less than one-half the length of the postocellar line; scutum opaque, finely, rather closely, punctured with smaller indistinct punctures in the interspaces; scutellum more sparsely sculptured, not impressed; propodeum without a median carina dorsally, the surface reticulate, with a few prominent ridges basally; mesepisternum shining, finely granular; sides of the propodeum with uniform oblique striae. Black; tibial spurs whitish; apical joints of the tarsi slightly reddish; wings hyaline, iridescent, with the apical margin dusky, venation dark brown.

Type locality.—St. Louis, Missouri.

Paratype locality.—Northern Illinois. Described from two females from the type locality, the type Rau No. 3135, the paratype under Rau No. 2337; and three females from the paratype locality.

Type.—Cat. No. 21611, U.S.N.M.

CERCERIS RAUI, new species.

The female of this species looks very much like *bicornuta* Guérin, but the clypeus extends forward as a free plate. The general structure of the clypeus is similar to that of *frontata* Say, but the darker body color and darker wings readily separated this from Say's species.

Female.—Length, 20 mm. The median prominence of the clypeus free, projecting at an angle of about 30 degrees from the front; the anterior margin deeply, arcuately emarginate, the lobes narrow, triangular; this frontal projection is one-third wider than its greatest length; the apical margin with dense yellowish hair; face and posterior orbits with large, close punctures; superior orbits and vertex shining with large, separate punctures; sides of the pronotum with a few rugae, the anterior one much stronger; mesepisternum punctato-reticulate with small punctures in the interspaces; mesoscutum with large, irregular, sometimes confluent punctures and with smaller intermediate punctures posteriorly; scutellum with scattered punctures; propodeal inclosure finely granular (under high magnification) with a few large, sparse, well-defined punctures; first tergite with a median depression posteriorly; abdomen with large separate punctures; the fourth and following segments with smaller, somewhat more widely separated punctures; pygidium truncate apically, apical and basal width subequal; sides slightly rounded so the margin width is somewhat greater; sides with a strong fringe of reddish hair. Black and ferruginous; head ferruginous, with clypeus, spot between the antennae and spot on the posterior orbits above yellow; the middle of the face, frons, and a supraorbital spot black; antennae black with the basal four joints and following three joints beneath rufo-ferruginous; thorax black; pronotum dorsally, two large spots

on the propodeum rufo-ferruginous; two small spots on the pronotum, tegulae, two spots on the scutellum, and the postscutellum yellow; abdomen ferruginous with the sutures black; the apical margin of the second, third, and fourth segments yellow; the bands on the second and third segments much broader laterally; legs rufo-ferruginous the four anterior tibiae, posterior femora beneath and the posterior tibiae yellowish; body densely clothed with long gray hair; wings violaceous, venation black; stigma ferruginous.

Paratype females indicate that the species may vary as follows: Black of the head entirely replaced by ferruginous; there may be two yellow marks in the superior orbits to the middle of the vertex; the black of the mesothorax may be largely ferruginous; when the black is replaced by ferruginous, the yellow spots are somewhat larger.

What may be the male of this species is closely allied to *venator* Cresson, but the first tergite is red and the hind basitarsis is straight. In these two characters it is similar to *mimica* Cresson, but differs from that species in the longer apical joint of the antennae.

Male.—Length, 17 mm. Anterior margin of the clypeus with broad, hairy lobes, medianly tridentate; front and face shining, with distinct separate punctures; third antennal joint distinctly longer than the fourth; apical joint of the antenna longer than the preceding, strongly concave beneath, truncate apically; the sculpture of the thorax is similar to that of the female, except that the propodeal inclosure is entirely smooth and polished medianly, but with the large scattered punctures laterally; pygidium truncate apically, strongly margined laterally, and about one-fourth broader at the base than at the apex. Black; face and clypeus, two spots on the pronotum, tegulae, metanotum, bands on the second, third, fourth, fifth, and sixth tergites (those on the second and third much broader laterally) yellow; basal three joints of the antennae and first tergite rufo-ferruginous; legs rufo-ferruginous; intermediate coxae and trochanters beneath, the posterior coxae and trochanters, base of the femora beneath, all of the tibiae beneath and most of the tarsi yellow; body densely clothed with long gray hair; wings subhyaline, the apical margin strongly dusky, venation dark brown costa and stigma ferruginous.

Type locality.—Near St. Louis, Missouri. The type is under Phil Rau's No. 3304; the allotype (male) in under his No. 3259; two paratypes (females) from Lake view, Kansas are under Phil Rau, No. 190. All the material was collected by Phil Rau, for whom the species is named.

Type.—Cat. No. 21610, U.S.N.M.